Razing The Stack

How the old Power House Stack was brought down

By FRANK DICKERSON, '27

"What goes up must come down." This old apothegm holds true with all material things, and was very forcibly proven to us, here on the campus, Friday afternoon, March 23, when the old abandoned power house stack crumbled and came thundering down to earth. A giant who had breathed fire and smoke for many years is no more, crushed under the mighty and ruthless wheels of progress.

Early in the year of 1913 the erection of this stack was started and the construction lasted for nearly two months. This stack was 204 feet in height, the outside diameter at the base was about 17 feet. The footing and foundation was a prodigious, stepped pyramidal mass of reinforced concrete, and the shaft was made of large radial hollow brick cemented firmly together by a rich mortar. At regular intervals bent bars, in the form of a box "U," were imbedded in the brick work, these bars then made a metallic ladder on the face of the stack and served man as a simple means of traveling up and down. A very important feature of every stack was added also, that of a lightning rod, which ran from the top down to the earth where it was well grounded. At intervals along the rod were metal fasteners which were imbedded into the masonry. The fasteners and the rod were joined together by a platinum joint; platinum was used because of its great infusibility. The top of the stack was capped with a large cast iron ring.

About five years ago the old Power House was abandoned and the heating and power equipment was transferred to its new headquarters in the expansive new Power Plant. Since that time, this faithful old stack has had no part in helping to furnish power and therefore has remained sadly silent and inactive.

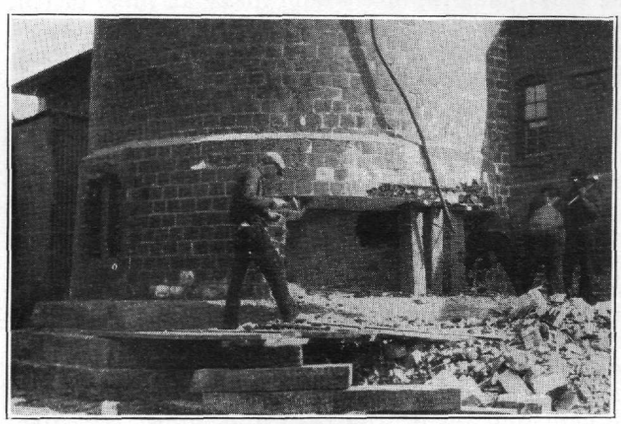

Fig. 1. Cutting and timber support

Fig. 2. The stack comes down

A short time ago contracts were let for the building of the final addition to the new Power Plant, making it a complete unit. One of these contracts was for the building of a new 245-foot smoke stack, which will be located just north of the Power Plant. The old stack was to be thrown, and all the good bricks salvaged and used in backing up in the new chimney. The H. R. Heinicke Company, Inc., of New York, builders of the old stack, being the low bidder was awarded the contract. This company sent Mr. W. M. Barber, a veteran stack and chimney thrower, to throw the stack on the Ohio State University campus. He and his few helpers arrived on Monday and started to work. It had been Mr. Barber's plan to throw the stack late Tuesday afternoon, but when this time arrived only a small hole was visible. Mr. Barber and his workmen were quite perplexed by the hardness of the brick. This masonry was playing havoc with their chisels and hammers. After continual pecking from the inside and outside the hole gradually grew. When the opening was large enough huge timbers were wedged into place. For example, illustration No. 1 shows the process of cutting and bracing, and also the thickness of the masonry at the base.

There are always two holes in a stack somewhere near the ground, one is where the breeching from the boilers enters the stack and the other is a clean-out door.

On the left side of the first illustration may be seen the aperture where the clean-out door was formerly located. The opening for the breeching was located on the opposite side. This stack presented Mr. Barber a different problem from that which he was used to. All the stacks he had thrown before could have been thrown in any direction that he desired, and he always made his cut under the breeching hole; the stack falling in that direction. But in this case there were buildings on the breeching side; therefore the stack had to be thrown to the west instead of the south. There was the everpresent danger of these holes causing the stack to slip to one side or the other and fall partially or totally on the surrounding buildings. A fairly large amount of steel had been used over the breeching aperture and this was thought to be strong enough to keep the stack from falling southward. The clean-out door opening was strengthened by wedging large timbers in place, thereby attempting to keep the stack from falling towards the north.

The chipping of the bricks continued until about 3:20 Friday afternoon, at which time the stack was resting on a half circle of masonry on the east and on a few huge timbers on the west. The ring resulting from pounding on the timbers told that the stack was settling heavily on the wooden bracing and that the time was ripe. A great pile of inflammable materials were placed around the timbers and a quantity of oil poured on. At 4:25 the oil soaked wood burst into flames. The fire burned briskly from the start as the old stack breathed again and for the last time, a minute later smoke rolled from the top. For 25 minutes the crowd stood silently watching, waiting; then at ten minutes to four a few bricks broke loose from the base and fell. A second later the top started to describe an arc to the west and earthward ever so slowly. Then as the timbers gave absolutely away the bottom of the stack kicked out and it settled heavily. In this settling the stack twisted, resulting in an immense torque on the stack, causing a crack to start from the base and wind cork screw like up the end around the chimney until it reached about two-thirds the distance up. When the crack reached this point this section of the chimney seemed to explode. The momentum earthward increased rapidly and more rapidly as it neared the ground. Illustration No. 2 shows the stack when it was half way down. About two seconds after this picture was taken over 700 tons of masonry struck the ground with a tremendous crash.

With all the possibilities of causing damage to the surrounding buildings the stack fell almost on the line Mr. Barber said it would. Although almost encircled with buildings not a window was broken.